

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Figures 1 and 2. These sheets, which include Figures. 1 and 2, replace the corresponding previously presented sheets.

Attachment: Replacement Sheets
Annotated Sheets Showing Changes

REMARKS/ARGUMENTS

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-53 are pending in this application. Claims 1, 8-10, 14-16, 27-29, 37-39, 46-48, 52 and 53 are independent. Claims 4, 5, 7, 9, 10, 13-15, 19, 21-24, 26, 28, 31-49, 52 and 53 are amended and thereby obviated the claim objections. No new matter has been introduced by this amendment. Support for this amendment is provided throughout the Specification and Drawings, specifically at Figures 3, 14 and 24. Changes to claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants is entitled.

In the Drawings, Figures 1 and 2 have been amended, thereby, obviating the objections.

The Specification has been amended, thereby, obviating the objections to the disclosure.

Claims 1-3, 6 and 8 were indicated as allowed. Claims 4, 5, 7, 9 and 12, recite allowable subject matter and have been amended, hereby obviating the objection to the claims and therefore they are allowable.

Claims 16, 17-36 and 38 were objected to. Applicants respectfully traverse the Claim objections. “[s]aid filter data” is different than that of “decoded filter data”. Further, antecedent basis and clarification is recited in the preamble of the claims. The “filter data” is the data prior to being decoded and subsequently becoming “decoded filter data”.

Reconsideration and withdrawal of the Claim objections are respectfully requested.

II. REJECTIONS UNDER 35 U.S.C. §102(b)

Claims 10-11, 14, 16-25, 27, 29-35, 37, 39-44, 46, 48-50 and 52 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by U.S. Patent No. 5,978,759 to Tsushima et al. (hereinafter, merely “Tsushima”).

Claim 10 recites, *inter alia*:

“A learning device...

prediction tap extracting means for extracting from said synthesized sound prediction taps used for predicting said speech of high sound quality, as target speech, the prediction values of which are to be found;

class tap extraction means for extracting class taps from said code, said class taps being used for classifying said speech of high sound quality, as target speech, the prediction values of which are to be found;

classification means for finding a class of said target speech based on said class taps; and

learning means for carrying out learning so that prediction errors of the prediction values of the speech of high sound quality obtained on carrying out predictive calculations using tap coefficients and said prediction taps will be statistically minimum, to find said tap coefficients from class to class.” (emphasis added)

As understood by Applicants, Tsushima relates to an apparatus for producing wideband speech signals from narrowband speech signals, particularly for producing wideband speech from telephone-band speech. The apparatus comprises a linear mapping function codebook used for converting spectral parameters, and a weights calculator and an adder for weighing and summing function outputs.

Applicants submit that Tsushima fails to teach or suggest the features of claim 10. Specifically, Applicants submit that there is no teaching or suggestion of a learning device comprising prediction tap extracting means for extracting from said synthesized sound prediction taps used for predicting said speech of high sound quality, as target speech, the prediction values of which are to be found, as recited in claim 10.

Therefore, Applicants submit that independent claim 10 is patentable.

For reasons similar to those described above with regard to independent claim 10, claims 14 and 15 are also believed to be patentable.

Therefore, Applicants submit that independent claims 10, 14 and 15 are patentable.

Claim 16 recites, *inter alia*:

“A data processing device for generating, from a preset code, filter data to be afforded to a speech synthesis filter adapted for synthesizing the speech based on linear prediction coefficients and a preset input signal, comprising:

code decoding means for decoding said code to output decoded filter data;

acquisition means for acquiring preset tap coefficients as found by carrying out learning; and

prediction means for carrying out preset predictive calculations, using said tap coefficients and the decoded filter data, to find

prediction values of said filter data, to send the so found prediction values to said speech synthesis filter.” (emphasis added)

It is respectfully submitted that Tsushima fails to provide the disclosure of claim 16. Page 13 Office Action recites column 3, line 47 - column 4, line 15 of Tsushima, which states, “...spectral envelope converter 109 converts the input spectral envelope parameters into spectral envelope parameters of a wider bandwidth...an input feature vector having p elements comprising the input spectral envelope parameters and an output or converted feature vector obtained by a k^{th} linear mapping function... a linear mapping function codebook that has M linear mapping functions, each of which corresponds to a spectral envelope code of the spectral envelope codebook...”

Applicants respectfully disagree with the assertion that Tsushima provides the disclosure of claim 16.

Applicants submit that Tsushima fails to teach or suggest the features of claim 16. Specifically, Applicants submit that there is no teaching or suggestion of a data processing device for generating, from a preset code, filter data to be afforded to a speech synthesis filter adapted for synthesizing the speech based on linear prediction coefficients and a preset input signal, comprising prediction means for carrying out preset predictive calculations, using said tap coefficients and the decoded filter data, to find prediction values of said filter data, to send the so found prediction values to said speech synthesis filter, as recited in claim 16.

Indeed, Applicants submit that a spectral envelope converter that converts spectral envelope parameters using spectral envelope parameters of filter coefficients of a filter and the linear mapping function obtained from the spectral envelope codebook, into wider-bandwidth spectral envelope parameters is completely different than a prediction means for carrying out preset predictive calculations, using said tap coefficients and the decoded filter data, to find

prediction values of said filter data, to send the so found prediction values to said speech synthesis filter.

Therefore, Applicants submit that independent claim 16 is patentable.

For reasons similar to those described above with regard to independent claim 16, claims 27-29, 37 and 38 are also believed to be patentable.

Therefore, Applicants submit that independent claims 16, 27-29, 37 and 38 are patentable.

Claim 39, recites, *inter alia*:

“A speech processing device for finding prediction values of the speech of high sound quality from the synthesized sound obtained on affording linear prediction coefficients and residual signals, generated from a preset code, to a speech synthesis filter, said speech of high sound quality being higher in sound quality than said synthesized sound, comprising:

prediction tap extraction means for extracting prediction taps usable for predicting the speech of high sound quality, as target speech, the prediction values of which are to be found from said synthesized sound, said code and information derived from said code;

class tap extraction means for extracting class taps, usable for sorting the target speech to one of a plurality of classes, by way of classification, from said synthesized sound, said code and the information derived from said code;

acquisition means for acquiring tap coefficients associated with the class of said target speech from the tap coefficients as found on learning from one class to another; and

prediction means for finding the prediction values of said target speech using said prediction taps and said tap coefficients associated with the class of said target speech.” (emphasis added)

Applicants submit that Tsushima fails to teach or suggest the features of claim 39.

Specifically, Applicants submit that there is no teaching or suggestion of a speech processing device comprising prediction tap extraction means for extracting prediction taps usable for

predicting the speech of high sound quality, as target speech, the prediction values of which are to be found from said synthesized sound, said code and information derived from said code, as recited in claim 39.

Therefore, Applicants submit that independent claim 39 is patentable.

For reasons similar to those described above with regard to independent claim 39, claims 46-48, 52 and 53 are also believed to be patentable.

Therefore, Applicants submit that independent claims 39, 46-48, 52 and 53 are patentable.

III. 35 U.S.C. §103(c) EXCEPTION

Claims 13, 15, 26, 28, 36, 38, 45, 47, 51 and 53 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Tsushima in view of U.S. Patent No. 6,539,355 to Omori et al. (hereinafter, merely “Omori”).

Omori is disqualified as §103 prior art to the present application under the provisions of 35 U.S.C. §103(c). Under the provisions of 35 U.S.C. §103(c), subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f) and (g) of 35 U.S.C. §102, shall not preclude patentability under §103 where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person or organization.

More specifically, M.P.E.P. §2146 states:

These changes to 35 U.S.C. 103(c) apply to all patents (including reissue patents) granted on or after December 10, 2004. The amendment to 35 U.S.C. 103(c) made by the AIPA to change "subsection (f) or (g)" to "one or more of subsections (e), (f), or (g)" applies to applications filed on or after November 29, 1999. It is to be noted that, for all applications (including reissue

applications), if the application is pending on or after December 10, 2004, the 2004 changes to 35 U.S.C. 103(c), which effectively include the 1999 changes, apply; thus, the November 29, 1999 date of the prior revision to 35 U.S.C. 103(c) is no longer relevant. (Emphasis added)

Omori and the present application were, at the time the present invention was made, subject to an obligation of assignment to the same organization, i.e., Sony Corporation. Such obligation is evidenced by the recording of assignment documents in the U.S. Patent and Trademark Office.

Accordingly, Omori is disqualified as prior art in a rejection under 35 U.S.C. §103(a); and thus all of the outstanding rejections based upon Omori in the above-noted Office Action are overcome.

Therefore, Applicants respectfully submit that claims 13, 15, 26, 28, 36, 38, 45, 47, 51 and 53 are patentable.

IV. DEPENDENT CLAIMS

The other claims in this application are each dependent from the independent claim discussed above and are therefore believed patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, or references, it is respectfully requested that the

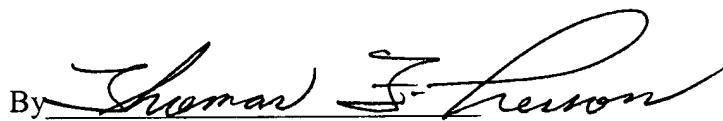
Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

Please charge any additional fees that may be needed, and credit any overpayment, to our Deposit Account No. 50-0320.

In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully request early passage to issue of the present application.

Respectfully submitted,

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